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ABSTRACT

Recent changes in the structure of wages and in employer-provided benefits made available to young workers were examined. Changes in the wage structure and in benefits were compared by educational level. Data from the Youth, Young Men, and Young Women's cohorts of the National Longitudinal Surveys provided information on a sample of young men and young women who were between the ages of 14 and 25 in 1966 and 1968, respectively, and who have been interviewed yearly or every 2 years since then; and from the youth survey of young men and women who were between 14 and 22 in 1979 and who have been interviewed annually since then. In order to see changes in labor income, hourly wage rates were examined for men and women by their level of educational attainment during their first 5 years out of school. In order to examine changes in employer-provided benefits over time, data from the Youth cohort in 1991 were compared to data from the Young Men's cohort in 1976 and from the Young Women's cohort in 1978. Some of the results of the study were the following: (1) for young workers in their first 5 years out of school, average wage rates fell substantially between the 1970s and 1980s; (2) there was little overall change in average wage rates for women workers; (3) this decline in wages was particularly severe for men with 12 years of education or less; (4) there was little change in the availability of health and retirement benefits for young workers between the 1970s and 1991; (5) there was an increase in available maternity leave, training, and profit-sharing opportunities; and (6) for most types of benefits, there seems to be a positive association between the availability of benefits and level of education. (KC)

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ED 362 681

Work and Family: Changes in Wages and Benefits Among Young Adults

Data from the National Longitudinal Surveys

U.S. Department of Labor
Bureau of Labor Statistics

Report 849
July 1993

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This issue of *Work and Family* examines recent changes in the structure of wages and in employer-provided benefits made available to young workers. Also, changes in the wage structure and in benefits are compared by educational level. For young workers in their first 5 years out of school, it is found that average wage rates for men fell substantially between the 1970's and 1980's, whereas there was little overall change in average wage rates for women workers. This decline in wages was particularly severe for men with 12 years of education or less. In addition, while there was little change in the availability of health and retirement benefits for young workers between the 1970's and 1991, there was an increase in available maternity leave, training, and profit-sharing opportunities. For most types of benefits examined here, there is a positive association between the availability of benefits and level of education.

Overview

Recent analyses of the distribution of labor income suggest that earnings inequality among both men and women was relatively stable in the 1970's, but increased in the 1980's.[1] These studies also generally find that the level of earnings decreased in the 1980's, particularly among those at lower education levels. There is also evidence which indicates that the nonwage components of labor compensation account for over one-fourth of total compensation.[2]

In this report, changes in the patterns of wages and in the provision of employer-provided benefits are examined using data from the National Longitudinal Surveys (NLS). The analysis is based on data from three cohorts of the NLS: Young Men, Young Women, and Youth. The Young Men's survey consists of a sample of males who were between the ages of 14 and 25 in 1966 and who were interviewed 12 times through 1981. The Young Women's survey is an ongoing study of females who were between the ages of 14 and 25 in 1968 and have been interviewed annually or biennially since 1968. The Youth survey consists of a sample of young men and women who were between the ages of 14 and 22 in 1979 and who have been interviewed annually since that year.

In order to see changes in labor income, hourly wage rates are examined for men and women by their level of educational attainment during their first 5 years out of school. In contrast to the methods used in this report, other studies often use data from the Current Population Survey (CPS), which is predominantly cross-sectional in nature and does not follow the experiences of individuals over extended periods of time. The longitudinal nature of the NLS, in which the same individuals are followed over time, allows for an examination of average wages according to years since schooling was completed. This type of analysis cannot be done using cross-sectional data from the CPS.

In order to examine changes in employer-provided benefits over time, data from the Youth cohort in 1991 are compared to data from the Young Men's cohort in 1976 and from the Young Women's cohort in 1978. In 1991, individuals from the Youth cohort were 26 to 34 years old. When examining benefits, the sample from the Young Men's cohort is restricted to those who were 26 to 34 in 1976, and the sample from the Young Women's cohort is restricted to those who were 26 to 34 in 1978. Benefits examined here include health, retirement, maternity leave, training, and profit-sharing opportunities.

Wage patterns

Using the data in charts 1 through 4—average hourly wage rates according to year out of school—provides insight into changing wage patterns among men and women by educational level. For individuals in the Young Men's and Young Women's cohorts, most observed school departures took place in the late 1960's and the early 1970's and their first 5 years out of school occurred in the 1970's. For individuals in the Youth cohort, most observed school

[1] For instance, see Lynn A. Karoly, "Changes in the Distribution of Individual Earnings in the United States," *The Review of Economics and Statistics*, February 1992, pp. 107-115; Lawrence F. Katz and Kevin M. Murphy, "Changes in Relative Wages, 1963-1987: Supply and Demand Factors," *Quarterly Journal of Economics*, February 1992, pp. 35-78; Frank Levy and Richard J. Murnane, "U.S. Earnings Levels and Earnings Inequality: A Review of Recent Trends and Proposed Explanations," *Journal of Economic Literature*, September 1992, pp. 1333-1381.

[2] This figure is derived from Employment Cost Index data of the Bureau of Labor Statistics.

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departures took place in the early 1980's and the first 5 years out of school occurred in the eighties. Consequently, in the charts, "1970's men" refer to men from the Young Men's cohort, "1970's women" refer to women from the Young Women's cohort, "1980's men" refer to men from the Youth cohort, and "1980's women" refer to women from the Youth cohort. All wages are converted to 1991 constant dollars using the CPI-U-X1 as a deflator.[3]

Among male high school dropouts there was a sharp decline in wages from the 1970's to the 1980's. (See chart 1.) In their fifth year after leaving school, male high school dropouts in the 1970's earned on average $11.14 per hour, whereas their counterparts in the 1980's earned only $7.81 per hour, a decline of nearly 30 percent.

Female high school dropouts earned slightly more in the 1980's than the 1970's, as the dropouts in the 1980's earned a little over a dollar more per hour than those in the 1970's in each of the first 5 years out of school. The wage differential between male and female high school dropouts was much smaller in the 1980's as well, although most of this change in the differential is due to the drop in wages for men.

Similar information for high school graduates is shown in chart 2. As with male high school dropouts, the male wages fell substantially from the 1970's to the 1980's. In their fifth year out of school, males graduating from high school in the 1970's earned on average $12.62 per hour, whereas those graduating in the 1980's earned $9.17 per hour, a decline of about 27 percent. Unlike high school dropouts, female high school graduates in the 1980's earned less than female high school graduates in the 1970's, although this difference is only about 50 cents at each year out of school. Again, the male/female wage differential declined between the 1970's and the 1980's, and most of the reduction in the differential appears to be a consequence of the fall in male wage rates.

Average hourly wages for young adults with some college (13-15 years of school) are shown in chart 3. Men with some college earned less in each year out of school in the 1980's than in the 1970's, although the extent of the percentage decline is much smaller than for high school dropouts and high school graduates. By their fifth year out of school, men with some college in the 1980's earned about 17 percent less than similarly educated men in the 1970's. For women with some college, there was a modest decline in hourly wages between the 1970's and the 1980's in each year out of school similar to that experienced by women high school graduates. Also, there was a decline in the differential in wages between men and women who had some college. However, this decline was smaller than for those with 12 years of education or less, basically because the reduction in men's wage rates was smaller for those with some college than for those with less education.

The pattern in average hourly wages among college graduates is shown in chart 4. Among this group, men also experienced a decline in wages from the 1970's to the 1980's, although the percentage decline is smaller than for the other education groups. In their fifth year out of school, men college graduates in the 1980's earned about 13 percent less than their male counterparts in the 1970's. Women college graduates earned less in their first year out of school in the 1980's than in the 1970's. However, by their fifth year out of school, women college graduates earned more in the 1980's than in the 1970's. As a result, the male/female wage differential for college graduates in their fifth year out of school declined over the 1970's and 1980's, due both to a reduction in wage rates for men and to an increase in wage rates for women.

Overall, these data show that for individuals in their first 5 years out of school, wages for men fell substantially between the 1970's and 1980's, whereas wages for women did not change much. Men with higher education levels experienced less of a wage decline than men with less education. This pattern for men indicates that the gap in wages between those with more than a high school education and those with 12 years of education or less increased substantially, a finding which has been documented by many studies using cross-sectional data including all age groups. Also, while there was a reduction in the male/female wage differential between the 1970's and 1980's among individuals in their first few years out of school, most of this reduction appears to be due to the decline in wages for men rather than to an increase in wages for women.

The decline in wage rates for men noted in this report is larger than that typically found using cross-sectional data such as the CPS. However, the average wages produced here are different from those usually constructed from CPS data in three ways. First, as mentioned previously, average wages according to year out of school can only be approximated using CPS data, and any direct comparison is not completely valid.

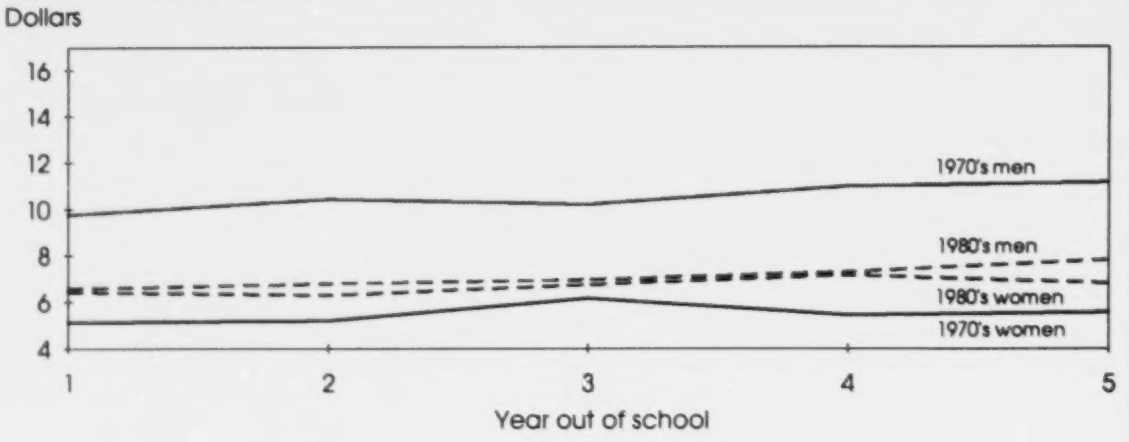
Second, most studies using CPS data analyze the wages of full-time full-year workers, whereas in this analysis, individuals may work either part-time or full-time. Because part-time work has grown in importance over time, and many part-time jobs pay lower wages than full-time jobs, the decline in average wages computed using NLS data may partially reflect the growth in part-time employment.[4]

Third and most importantly, past studies using cross-sectional data generally restrict their samples to prime-age (ages 25-54) individuals. The group of workers analyzed here, individuals in their first few years out of school, are

[3] The CPI-U-X1 is the same price deflator as the CPI-U (all urban consumers) for all years after 1982. For prior years, the CPI-U-X1 is a deflator which incorporates the current methodology used to construct the CPI-U (the methodology for the CPI-U changed in 1982).

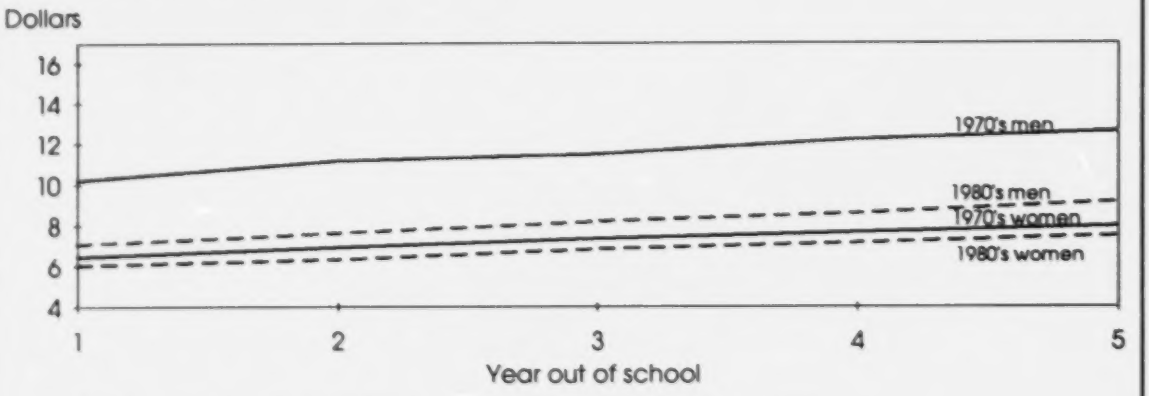
[4] For a detailed analysis of part-time employment patterns, see Thomas J. Nardone, "Part-time workers: Who are they?," *Monthly Labor Review*, February 1986, pp. 13-19.

Chart 1. Average hourly wages of high school dropouts in the first 5 years out of school, in 1991 CPI-U-X1 adjusted dollars



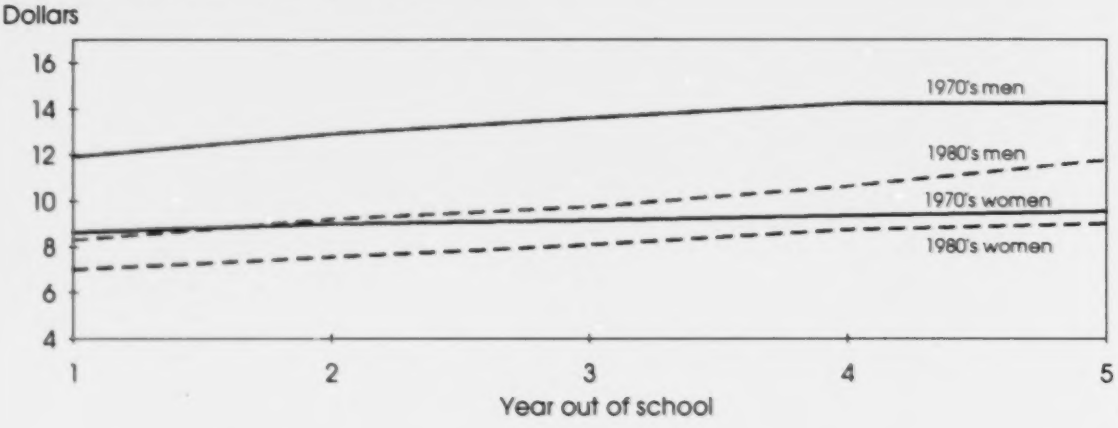
SOURCE: National Longitudinal Surveys of Young Men, Young Women, and Youth

Chart 2. Average hourly wages of high school graduates in the first 5 years out of school, in 1991 CPI-U-X1 adjusted dollars



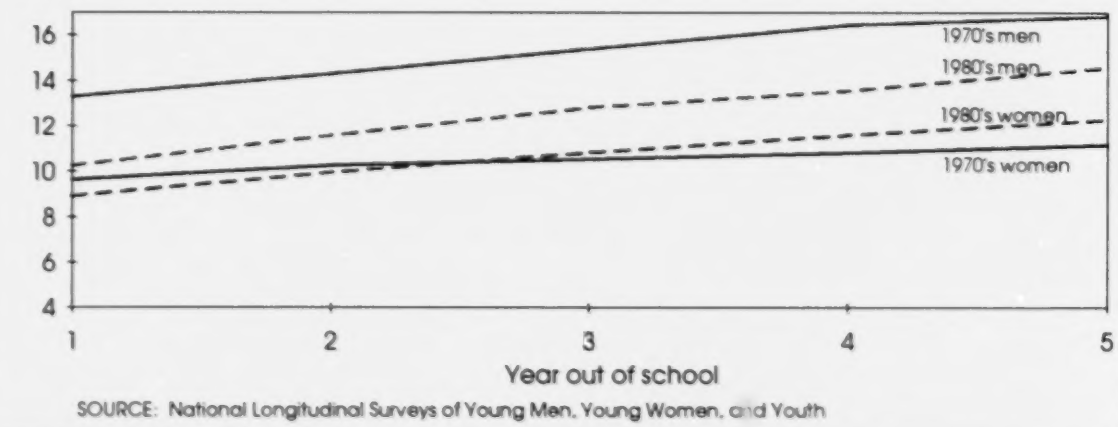
SOURCE: National Longitudinal Surveys of Young Men, Young Women, and Youth

Chart 3. Average hourly wages for individuals with some college in the first 5 years out of school, in 1991 CPI-U-X1 adjusted dollars



SOURCE: National Longitudinal Surveys of Young Men, Young Women, and Youth

Chart 4. Average hourly wages of college graduates in the first 5 years out of school, in 1991 CPI-U-X1 adjusted dollars



SOURCE: National Longitudinal Surveys of Young Men, Young Women, and Youth

younger than the typical prime-age worker. Hence, the large drop in average wages for these young workers suggests that wages declined for younger workers between the 1970's and the 1980's much more so than for older workers.[5]

Employer-provided benefits

In addition to income received from wages, many workers receive compensation through a variety of nonwage benefits, such as pensions, health insurance, sick leave, and disability insurance. Given the reduction in wages for many workers, employer-provided benefits play an increasingly important role in a worker's total compensation. Certainly, different employers offer different wage/nonwage compensation packages, and the types of benefits offered and the mix of wages and benefits are important determinants of a worker's job choice.

Has there been a change in the provision of benefits to young workers? As discussed previously, when analyzing the provision of benefits, 26- to 34-year-old workers from the 1991 Youth survey are compared to similarly aged workers from the 1976 Young Men's and 1978 Young Women's surveys. The benefits examined here are health, retirement, maternity leave (for women only), training, and profit-sharing opportunities. The data refer to the incidence of possible benefit receipt as reported by the respondent and do not reflect the extent or value of the respondent's benefit coverage. It is important to note these benefits refer to whether or not the worker's employer offered these benefits, not whether or not the worker made use of them.

Health benefits. Information on the provision of employer-provided health benefits by educational level is shown in chart 5. There does not appear to be much change in the provision of these benefits over time. However, in the 1970's and 1991, the availability of health benefits increased with educational level. In particular, during these two periods, a little over 60 percent of employed high school dropouts had health benefits available to them, whereas over 85 percent of college graduates had these benefits available to them.

Retirement benefits. As with health benefits, there was little change in the availability of retirement benefits to young workers across time periods, as shown in chart 6. There was a slight reduction in the availability of retirement benefits among high school dropouts, but there was no significant change for any of the other educational groups. In both time periods, the availability of retirement benefits increased with education. For instance, among young adults in 1991, about 35 percent of high school dropouts had retirement benefits available to them, but approximately 74 percent of college graduates had access to these benefits.

[5] The CPS also differs from the NLS in that the CPS allows for proxy response and imputes missing earnings data, whereas the NLS does not.

Maternity leave benefits. Changes in the availability of maternity leave to young women workers from 1978 to 1991 are shown in chart 7. Maternity leave became much more prevalent in 1991. For instance, among high school dropouts, the availability of maternity leave benefits doubled, increasing from 28.1 percent in 1978 to 57.4 percent in 1991. The likelihood of working for an employer who provided maternity leave increased by over 25 percent for the other educational groups. In 1991, there also appears to be a positive association between education and the availability of maternity leave.

Training opportunities. The availability of employer-provided training opportunities increased slightly for young men and women between the 1970's and 1991 (see chart 8). The largest increase in opportunities was for college graduates: about 68 percent worked in jobs that provided training opportunities in 1991, whereas 59 percent of college graduates had such opportunities in the earlier time period. In both time periods, there is a clear positive association between training opportunities and educational attainment.[6]

Profit-sharing. The percentage of young workers with profit-sharing opportunities increased between the 1970's and 1991 (see chart 9). At each educational level, there was a rise in profit-sharing opportunities, ranging from about a 7-percent increase among high school dropouts to about a 15-percent increase among college graduates. In addition, there is a consistently significant positive relationship between the availability of profit-sharing opportunities and education in the later time period.

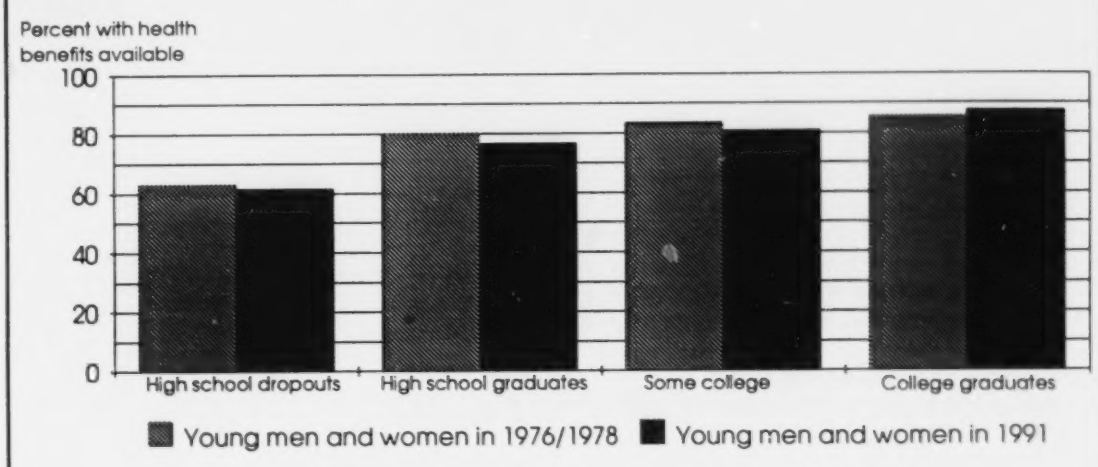
Summary

Hourly wage rates fell dramatically for young men in their first 5 years out of school between the 1970's and 1980's. This decline was particularly severe for young men with 12 years of education or less. There was no substantial change in the average hourly wages of young women in their first 5 years out of school between the 1970's and 1980's.

Of the five employer-provided benefits examined here, there was an overall increase in the availability of three of the five benefits and little change in the other two. Maternity leave, training, and profit-sharing opportunities all increased for young workers between the 1970's and 1991, while there was little change in the provision of health and retirement benefits. The changes in benefits may be due to a number of factors, including, among other things, changes in Federal and State laws. Nearly all of these benefits appear to be positively related to level of education, particularly in 1991.

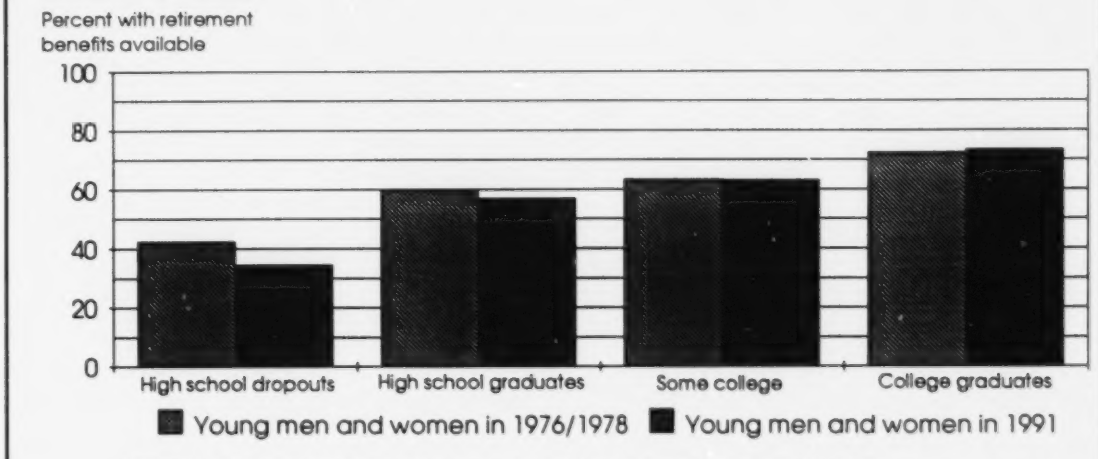
[6] This is consistent with other studies which have found a positive association between the receipt of training and education. For instance, see Joseph G. Altonji and James R. Spletzer, "Worker Characteristics, Job Characteristics, and the Receipt of On-the-Job Training," *Industrial and Labor Relations Review*, Vol. 45, No. 1, 1991, pp. 58-79.

Chart 5. Availability of employer-provided health benefits by education status, 1976-78 and 1991



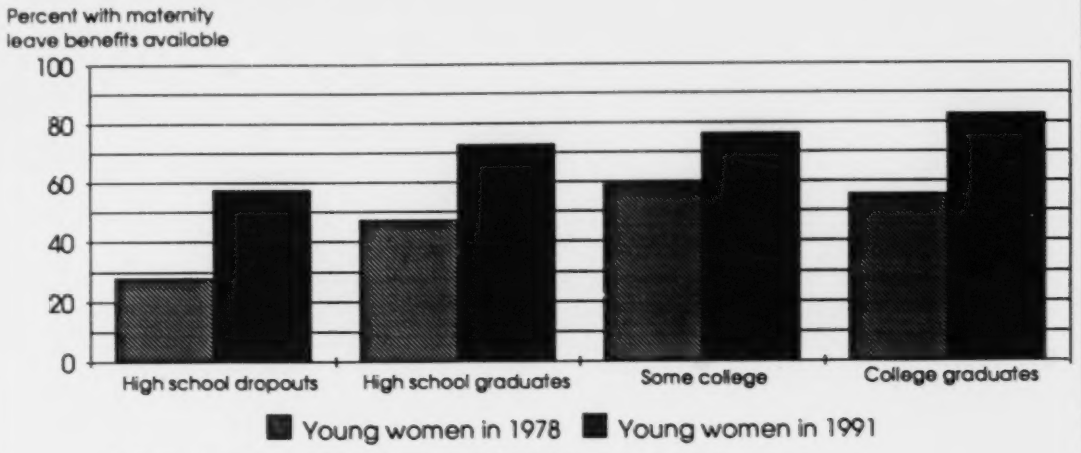
SOURCE: National Longitudinal Surveys of Young Men, Young Women, and Youth

Chart 6. Availability of employer-provided retirement benefits by education status, 1976-78 and 1991



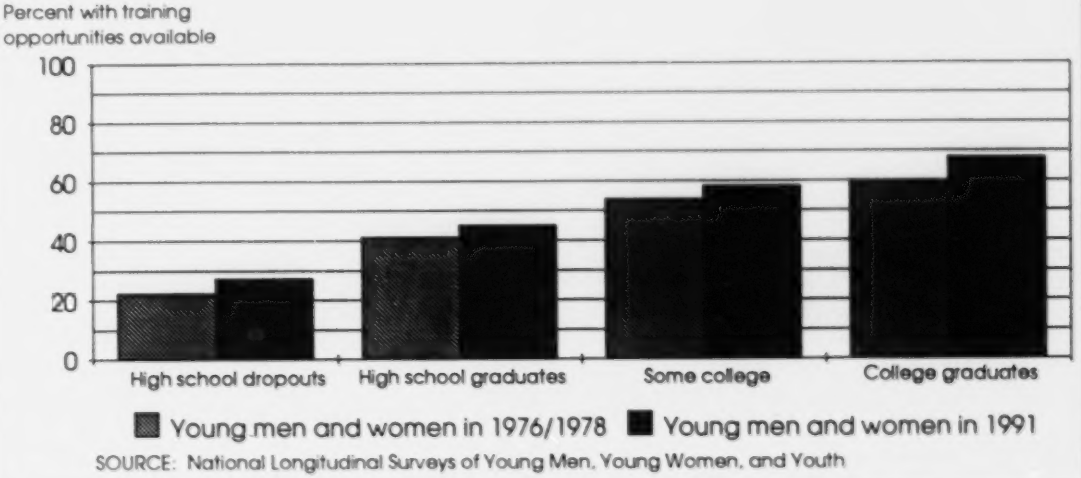
SOURCE: National Longitudinal Surveys of Young Men, Young Women, and Youth

Chart 7. Availability of employer-provided maternity leave benefits by education status, 1978 and 1991 (women only)



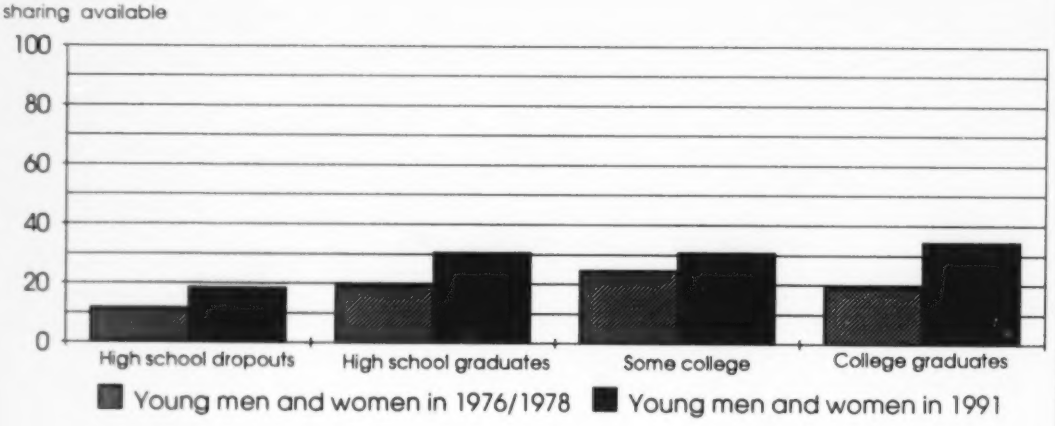
SOURCE: National Longitudinal Surveys of Young Women and Youth

Chart 8. Availability of employer-provided training opportunities by education status, 1976-78 and 1991



SOURCE: National Longitudinal Surveys of Young Men, Young Women, and Youth

Chart 9. Availability of profit-sharing opportunities by education status, 1976-78 and 1991



SOURCE: National Longitudinal Surveys of Young Men, Young Women, and Youth

Technical Note

Data in this report are from the National Longitudinal Surveys (NLS), which the Bureau of Labor Statistics (BLS) sponsors. The Bureau contracts with the Center for Human Resource Research of The Ohio State University to manage the surveys and provide user services. The NLS were begun in the mid-1960's with the drawing of four samples: Young Men who were 14-24 years old as of January 1, 1966; Young Women who were 14-24 years old as of January 1, 1968, Older Men who were 45-59 years old as of January 1, 1966, and Mature Women who were 30-44 years old as of January 1, 1967. Each sample originally had about 5,000 individuals with oversamples of blacks. In the early 1980's, the Young Men and Older Men surveys were discontinued. The two women's surveys continue and are currently collected every 2 years. The Bureau of the Census undertakes the data collection for BLS.

In 1979, a new cohort was begun with a sample of over 12,000 young men and women who were 14-21 years of age as of January 1, 1979. It includes oversamples of blacks, Hispanics, economically disadvantaged whites, and youth in the military. The military oversample was discontinued after the 1984 survey, and the economically disadvantaged white oversample was discontinued after the 1990 survey. This survey is called the Youth cohort, and the cohort members have been interviewed every year since it began. The data collection for the Youth cohort is undertaken by NORC (National Opinion Research Center), a social science research center affiliated with the University of Chicago.

The data in this report are weighted so that the sample is representative of the age group studied. In all surveys, respondents can report earnings over any time frame (hour, day, month, etc.). For those who do not report an hourly wage, one is constructed using usual hours worked over that time frame (this constructed wage is a created variable in the public use data). For the average wage computations, the samples include individuals who had positive wage observations in interview years over the 5 years following school exit. Also, the samples include individuals who were respondents in the last year in which data are available for each of the surveys (1981 for the Young Men; 1988 for the Young Women; and 1991 for the Youth) and the last year's weight is used. In order to provide a perspective of the years and ages of each group, the average calendar year and average age for individuals in their fifth year out of school are as follows:

	High school dropouts	*High school graduates*	*Some college*	*College graduates*
1970's men				
Year	1972	1973	1974	1976
Age	23.0	23.7	27.4	28.7
1970's women				
Year	1974	1975	1976	1978
Age	22.7	23.2	26.5	27.9
1980's men				
Year	1986	1986	1987	1988
Age	22.8	23.4	26.2	27.7
1980's women				
Year	1986	1986	1987	1988
Age	23.3	23.3	26.0	27.3

The above table can be used to compare average real wages constructed from other data sets. Data from the CPS indicate that the decline in average real earnings for men was smaller than that suggested by the NLS. For instance, the CPS indicates that men aged 25-34 with 1-3 years of college experienced a 7.3-percent decline in average real earnings between 1974 and 1987, whereas, as mentioned in the text, the NLS indicates that in their fifth year out of school, men who completed 13-15 years of school in the 1980's earned 17.4 percent less in real wages than similarly educated men in the 1970's.

For the benefits computations, the samples include 26- to 34-year-old individuals in 1976 (from the Young Men), 1978 (from the Young Women), and 1991 (from the Youth), and the weight corresponding to the selected year is used. All benefits refer to those made available from the current or most recent job at the time of the interview.

Due to sampling variability, small differences between estimates that are not discussed in the text should be interpreted with caution. For a detailed explanation of the NLS, see *NLS Handbook 1993* (Center for Human Resource Research, The Ohio State University) or *BLS Handbook of Methods* (U.S. Department of Labor, September 1992, Bulletin 2414). For information about the NLS, or to be placed on a mailing list for this publication, write to National Longitudinal Surveys, Bureau of Labor Statistics, Office of Research and Evaluation, 2 Massachusetts Ave., NE., Room 4915, Washington, DC 20212-0001, or call (202) 606-7405.

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